In the Claims

1. (Previously Presented) An MRI apparatus comprising:

a magnetic resonance imaging (MRI) system having a plurality of gradient coils positioned about a bore of a magnet to impress a polarizing magnetic field and an RF transceiver system and an RF switch controlled by a pulse module to transmit RF signals to an RF coil assembly to acquire MR images; and

a computer programmed to acquire MR data from a field of view (FOV) that is smaller in a frequency encode direction than in a phase encode direction and programmed to define the FOV such that the frequency encode direction extends parallel to an anterior/posterior axis extending through the bore.

2. (Canceled)

3. (Original) The MR apparatus of claim 1 wherein the computer is further programmed to cause application of a phase encoding gradient and a frequency encoding gradient, and wherein the frequency encoding gradient is designed to cause a range of measured readout frequencies to come from a smaller spatial dimension than that defined by the phase encoding gradient.

4. (Original) The MR apparatus of claim 3 wherein the computer is further programmed to dimensionally define the FOV from a left/right size of a two-breast volume.

5. (Original) The MR apparatus of claim 4 wherein the computer is further programmed to reconstruct a bilateral image of a breast region of a subject along a generally axial plane.

6. (Original) The MR apparatus of claim 4 wherein the computer is further programmed to define readout in a direction to reduce artifacts resulting from cardiac motion during an axial bilateral breast scan.

7. (Original) The MR apparatus of claim 1 wherein the computer is further programmed to define readout in a direction to reduce artifacts from CSF pulsation during a sagittal spine scan.

8. (Original) The MR apparatus of claim 1 wherein the RF coil assembly includes at least a phased array coil architecture or a surface coil.

9. (Previously Presented) A method of MR imaging comprising the steps of:

defining an FOV to have a phase encoding dimension and a frequency encoding dimension, wherein the frequency encoding dimension is less than the phase encode dimension, and wherein the frequency encode dimension is parallel to an anterior/posterior axis extending through a subject to be scanned; and

acquiring MR data from the FOV for image reconstruction.

10. (Original) The method of claim 9 wherein the frequency encode dimension is transverse to the phase encode dimension.

11. (Canceled)

12. (Original) The method of claim 9 wherein the step of acquiring MR data includes the acquisition of bilateral breast data from a patient along an axial plane of orientation.

13. (Original) The method of claim 9 wherein the step of acquiring MR data includes the acquisition of spine data from a patient along a sagittal plane of orientation.

14. (Original) The method of claim 9 wherein the step of acquiring includes acquiring MR data with a phased array coil spatially sensitive to the FOV.

15. (Previously Presented) A computer readable storage medium having a computer program stored thereon and representing a set of instructions that when executed by a computer causes the computer to:

apply a slice select gradient to spatially define an FOV in a first direction;

apply a phase encoding gradient to phase encode the FOV in a second direction;

apply a frequency encoding gradient to frequency encode the FOV in a third direction, the frequency encoding gradient designed to spatially define the FOV smaller in the third direction than in the second direction; and

acquire MR data from the FOV with readout in the third direction which is parallel to an anterior/posterior axis through a subject; and

store the acquired MR data in computer memory.

16. (Canceled)

17. (Original) The computer readable storage medium of claim 15 wherein the set of instructions further causes the computer to define the FOV such that a frequency encoding axis is less in length than a phase encoding axis.

18. (Original) The computer readable storage medium of claim 15 wherein the set of instructions further causes the computer to acquire bilateral breast MR data with gradient recalled echo readout.

19. (Original) The computer readable storage medium of claim 15 wherein the set of instructions further causes the computer to acquire spinal MR data with spin echo readout.

20. (Original) The computer readable storage medium of claim 15 wherein the second direction is defined as extending along a width of a subject and the third direction is defined as extending along a thickness of the subject.

21. (Previously Presented) A breast imaging examination technique comprising:

selecting an axial FOV sized to spatially include both breasts of a subject to be scanned;

truncating the FOV in a frequency encoding direction along an anterior/posterior axis extending through a subject to be scanned such that the FOV is larger in a phase encoding direction than the frequency encoding direction; and

acquiring and storing MR data from the truncated FOV.

22. (Previously Presented) A spinal imaging examination technique comprising:

selecting an sagittal FOV sized to spatially include multiple spinal regions of a subject to be scanned;

truncating the FOV in a frequency encoding direction along an anterior/posterior axis extending through a subject to be scanned such that the FOV is larger in a phase encoding direction than the frequency encoding direction; and

acquiring and storing MR data from the truncated FOV.